

IN THE CLAIMS:

Claims 1-10 (Cancelled).

11. (Previously Presented) The wireless base station of claim 15, wherein the control signal transmitted to the specific mobile station includes a message representing a link channel establishing request, a link channel establishing re-request, a link channel allocation request, or a link channel allocation rejection.

12. (Previously Presented) The wireless base station of claim 15, wherein when the judging unit judges in the negative, the controlling unit controls the wireless base station so that the transmission using the array antenna pattern is performed with a raised transmission power.

13. (Canceled).

14. (Canceled).

15. (Currently Amended) A wireless base station that transmits a control signal to a non-specific mobile station by forming an omnidirectional antenna pattern and transmits a control signal to a specific mobile station by forming an array antenna pattern, the wireless base station comprising:

a judging unit ~~operable to~~ for judging, when the control signal is to be transmitted to the specific mobile station, ~~judge if at least one of the following is satisfied~~ whether

both of the following conditions are satisfied: (a) a difference between received reference signals in an immediately preceding reception from a mobile station is equal to or larger than a threshold value, and (b) a time lapse between the immediately preceding reception and the transmission of the control signal exceeds a predetermined length; and

a controlling unit ~~operable to~~ for forcing, when the judging unit judges ~~in the affirmative~~ both conditions are satisfied, ~~stop the wireless base station from~~ to stop forming the array antenna pattern and ~~force the wireless base station to~~ transmit the control signal by forming an omnidirectional antenna pattern, and, ~~in a case where a reception field strength of the mobile station is high,~~ control for controlling the wireless base station so that a transmission power is lowered temporarily.

16. (Previously Presented) The wireless base station of claim 15, wherein the judgment unit makes the judgment when a link channel establishing request is received in the immediately preceding reception.

17. (Currently Amended) A controlling method to be used by a wireless base station that transmits a control signal to a non-specific mobile station by forming an omnidirectional antenna pattern and transmits a control signal to a specific mobile station by forming an array antenna pattern, the controlling method comprising:

a judging step of, when the control signal is to be transmitted to the specific mobile station, judging ~~if at least one of the following is satisfied~~ whether both of the following conditions are satisfied: (a) a difference between received reference signals in

an immediately preceding reception from a mobile station is equal to or larger than a threshold value, and (b) a time lapse between the immediately preceding reception and the transmission of the control signal exceeds a predetermined length; and

a controlling step of, when ~~the judgment is in the affirmative~~ the judging unit judges both conditions are satisfied, stopping the wireless base station from forming the array antenna pattern, ~~and forcing the wireless base station to transmit the control signal by forming an omnidirectional antenna pattern, and controlling the wireless base station so that a transmission power is lowered temporarily.~~

18. (New) A wireless base station for reducing interference between the base station and a specified mobile station caused by control signals emitted by other wireless base stations, the base station comprising:

a receiving unit for receiving a control signal requesting channel allocation information through each of a plurality of antennas;

a calculating unit for calculating a weight coefficient for the control signal requesting channel allocation information received by each of the plurality of antennas;

a combining unit for combining the control signal requesting channel allocation information received by each of the plurality of antennas and the calculated weight coefficient in order to form an array antenna pattern;

a transmitting unit for transmitting a control signal containing channel allocation information to the mobile station; and

a control unit for instructing the transmitting unit to temporarily raise transmission power and use the array antenna pattern to transmit the control signal containing channel allocation information to the mobile station, and

when (1) communication quality is poor and (2) a time lapse between the receiving unit receiving the control signal requesting channel allocation information from the mobile station and the transmitting unit transmitting the control signal containing channel allocation information to the mobile station exceeds a predetermined length, the control unit forces the transmitting unit to use an omni-directional pattern to transmit the control signal containing channel allocation information to the mobile station, and

when (1) communication quality is high and (2) the time lapse exceeds a predetermined length, the control unit forces the transmitting unit to temporarily lower transmission power and use an omni-directional pattern to transmit the control signal containing channel allocation information to the mobile station.

19. (New) The wireless base station of claim 18, wherein the control signal containing channel allocation information transmitted to the mobile station includes information representing a link channel establishing request, a link channel establishing re-request, a link channel allocation request, or a link channel allocation rejection.

20. (New) A controlling method to be used by a wireless base station for reducing interference between the base station and a specified mobile station caused by control signals emitted by other wireless base stations, the method comprising the steps of:

receiving by means of a receiving unit a control signal requesting channel allocation information through each of a plurality of antennas;

calculating by means of a calculating unit a weight coefficient for the control signal requesting channel allocation information received by each of the plurality of antennas;

combining by means of a combining unit the control signal requesting channel allocation information received by each of the plurality of antennas and the calculated weight coefficient in order to form an array antenna pattern;

transmitting by means of a transmitting unit a control signal containing channel allocation information to the mobile station; and

instructing by means of a control unit the transmitting unit to temporarily raise transmission power and use the array antenna pattern to transmit the control signal containing channel allocation information to the mobile station, and

when (1) communication quality is poor and (2) a time lapse between the receiving unit receiving the control signal requesting channel allocation information from the mobile station and the transmitting unit transmitting the control signal containing channel allocation information to the mobile station exceeds a predetermined length, forcing by means of the control unit the transmitting unit to use an omni-directional pattern to transmit the control signal containing channel allocation information to the mobile station, and

when (1) communication quality is high and (2) the time lapse exceeds a predetermined length, forcing by means of the control unit the transmitting unit to

temporarily lower transmission power and use an omni-directional pattern to transmit the control signal containing channel allocation information to the mobile station.